

## REMARKS

### I. Introduction

With the addition of new claims 29 and 30, claims 14, 15, 17 to 24, and 26 to 30 are pending in the present application. In view of the following remarks, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

### II. Allowed Claims

Applicants note with appreciation the indication that claims 14, 15, and 17 to 22 are allowed.

### III. Rejection of Claims 23, 24, and 26 to 28 Under 35 U.S.C. §§ 102(e) and 103(a)

Claims 23, 24, and 26 to 28 were rejected under 35 U.S.C. § 102(e) as anticipated by U.S. Patent No. 6,684,742 (“White”) and were rejected under 35 U.S.C. § 103(a) as unpatentable over White. It is respectfully submitted that White does not anticipate and does not render unpatentable the present claims for at least the following reasons.

Claim 23 recites that a cutting tool, for cutting freeform surfaces on a workpiece, includes a tool shank, and a tool head, wherein a radius of the tool head is greater than a radius of the tool shank and smaller than a smallest radius of curvature of the freeform surface.

Nowhere, does White disclose, or even suggest, that a radius of a tool head is **smaller than a smallest radius of curvature of a freeform surface**. White merely discusses radius of curvature with respect to the **tool** itself (*i.e.*, the silhouette of the tool), not a **freeform surface** (*see, e.g.*, col. 4, lines 47 to 60 of White). It is, therefore, respectfully submitted that White does not disclose, or even suggest, all of the features included in claim 23. Consequently, it is respectfully submitted that White does not anticipate claim 23, or claims 24 and 26, which depend from claim 23.

Claim 27 recites that a method includes manufacturing a rotationally symmetric component by cutting a workpiece with a cutting tool, the cutting tool including a tool shank and a tool head, a radius of the tool head greater than a

radius of the tool shank and smaller than a smallest radius of curvature of the freeform surface.

As mentioned above with respect to claim 23, White does not disclose, or even suggest, that a radius of the tool head is smaller than a smallest radius of curvature of a freeform surface. It is, therefore, respectfully submitted that White does not disclose, or even suggest, all of the features included in claim 27. Consequently, it is respectfully submitted that White does not anticipate claim 27 or claim 28, which depends from claim 27.

The Examiner, referring to § 103(a), states that “it would have been an obvious matter of design choice to form the assembly such that a radius of the tool head is smaller than the smallest radius of curvature of a freeform surface, since such a modification would have involved a mere change in the size of a component.” Applicants respectfully disagree. As an initial matter, the Examiner’s reliance on In re Rose, 105 U.S.P.Q. 237 (C.C.P.A. 1955), is improper since the present claims do not address overall size. Rather, the relative size of a tool head compared to a radial of a tool shank is included in the present claims. Nothing in the In re Rose decision addresses relative sizes. The arrangement provided by claims 23 and 27 provides for a simple and quick production of the cutting paths for the cutting tool to be used. In this regard, as opposed to, for example, the device of White, by having a radius of the tool head smaller than the smallest radius of curvature of a freeform surface it ensures that there is a low residual line formation, that the line spacing during cutting is increased, the cutting time reduced, and machining of the workpiece is collision-free (see, e.g., the Specification at, for example, page 6, lines 1 to 8).

Further, with respect to claims 24 and 28, the Office Action’s reference to an intended use is not -- and cannot be -- understood. In this regard, claim 24 recites that “the cutting tool is arranged as a five-axis cutting tool,” and claim 28 recites that “the rotationally symmetric component includes one of (a) a disk-shaped component, (b) a ring-shaped component and (c) a rotor disk having integrated blading.” The above recitations simply do not constitute intended uses. Irrespective of how a cutting tool is used, its configuration and arrangement make it possible to access all points in space without collision (see, e.g., the Specification at, for example, page 4, lines 10 to 23), which is not disclosed by White. Thus, it is entirely unclear what aspect of these claims is or might be considered a statement of intended use.

In view of all of the foregoing, withdrawal of this rejection is respectfully requested.

**IV. New Claims 29 and 30**

Claims 29 and 30 have been added herein. New claims 29 and 30 do not add any new matter and are fully supported by the present application, including the Specification. Claims 29 and 30 ultimately depend from claim 23, and are therefore allowable for the same reasons as claim 23.

**V. Conclusion**

It is therefore respectfully submitted that all of the presently pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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